

**REPLY BRIEF UNDER 37 C.F.R. 41.41**

January 11, 2008

**TABLE OF CONTENTS**

The Examiner's Argument on Page 7 of the Answer Is Flawed and Improper..... 1

Reply To Examiner's Response To Argument.....3

Conclusion.....6

## **TABLE OF AUTHORITIES**

### **Cases**

<u>Nystrom v. Trex Company, Inc.</u> , 424 F.3d 1136, 1149, 76 USPQ2d 1481 (Fed. Cir. 2005).....	1
<u>In re Wright</u> , 569 F.2d 1124, 1127 (CCPA 1977).....	1
<u>KSR Int’l Co. v. Teleflex, Inc.</u> , 107 S. Ct. 1727, 1742, 82 USPQ2d 1385 (U.S. 2007).....	5

### **REPLY BRIEF UNDER 37 C.F.R. §41.41**

This Reply Brief is in response to the Examiner's Answer mailed November 13, 2007 and in furtherance of Appellant's Appeal Brief filed on September 19, 2007.

In general, it appears that the Examiner has repeated most of the arguments made in the Final Rejection of March 20, 2007. Appellant believes that each of these arguments has already been addressed and overcome in Appellant's Appeal Brief. Appellant will address herein only those arguments and points that Appellant believes the Examiner has raised for a first time.<sup>1</sup>

#### **The Examiner's Argument on Page 7 of the Answer Is Flawed And Improper**

On page 7, second paragraph of the Examiner's Answer, the Examiner argues for the first time that:

“Further, in Chen's Fig. 7, the first 'leveling' layer 40 is thicker than the second 'leveling' layer 42 at some positions; and also in other positions, the second leveling layer 42 is thicker than the first leveling layer 40 at other positions in the same manner as it as [*sic?* is] in instant's Fig. 1 or Fig. 4.”

Appellant disagrees with the Examiner's conclusion. First, it is well established precedent that patent drawings do not define the precise proportions of the elements and may not be relied upon to show particular sizes if the specification is completely silent on the issue. See Nystrom v. Trex Company, Inc., 424 F.3d 1136, 1149, 76 USPQ2d 1481 (Fed. Cir. 2005). As noted in In re Wright,

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<sup>1</sup> On page 14, the Examiner raises for the first time an objection to the drawings. As the Examiner agrees, this is not a new ground for rejection. Instead, this is an objection for an informality in the drawings as not including certain reference characters. Applicant is agreeable to filing an amendment to the drawings to overcome this objection.

569 F.2d 1124, 1127 (CCPA 1977), the PTO was in error when it reached a conclusion based on a comparison of the relative dimensions of appellant's and a reference (Bauer) drawing figures when the reference does not disclose that the drawings are to scale. In the present case, there is nothing to indicate that the drawings in Chen are to scale.

Second, in the present case, in Appellant's Appeal Brief, Appellant has already discussed in depth all the evidence that shows that in Chen, either layer 40 (the first leveling layer) is thicker than layer 42 (the second leveling layer) or one would have to conclude that Chen is vague and unclear and does not teach the relative thicknesses of the two layers. As explained herein and in the Appeal Brief, the Examiner's attempts to overcome Appellant's arguments are improper and incorrect.

Third, the figures and layers in Chen need to be viewed in their entirety. Fairly viewed, in Chen Fig. 7, almost all, if not all, of first layer 40 is shown to be thicker than second layer 42. The Examiner appears to be focusing on two tiny spots around the corner of patterned conducting layer 34 (and only the second layer 34 from the left) where the relative thicknesses are unclear. One skilled in the art would clearly dismiss these small instances in the figures when determining what Chen discloses regarding the relative thicknesses of layers 40 and 42. These appear to be hand-drawn drawings where it is not clear at all that Chen intends to show relative thicknesses at these two tiny spots. Consistent with the decision by the Court of Appeals for the Federal Circuit in Nystrom, the drawings in Chen are not to scale, and these two tiny spots cannot be relied upon to reject the claims of the present application.

This is especially true in light of the other disclosures in Chen (as discussed in Appellant's

Appeal Brief) regarding the relative thicknesses of these layers and that layer 40 is thicker than layer 42. Hence, it appears that in Fig. 7 in Chen, either the first layer 40 is thicker than the second layer 42, or the relative thicknesses of the layers cannot be determined or relied upon in rejecting the pending claims.

In contrast, Fig. 9B of the present application, when viewed in its entirety, clearly shows second layer 720 as being thicker than layer 719. This is consistent with the claims and page 17 of the specification of the present application which discusses the first leveling film 719 having a thickness of 0.5  $\mu\text{m}$  and the second leveling film 720 having a thickness of 1.0  $\mu\text{m}$ .

Therefore, for multiple reasons, the Examiner's argument is flawed, not only does Fig. 7 in Chen teach away from the claimed invention, but also it is improper for the Examiner to rely upon Fig. 7 to reject the claims of the present application.

#### Reply To Examiner's Response To Argument

On pages 10-15 of the Examiner's Answer, the Examiner has a section entitled "Response to Argument." Appellant replies as follows:

In the "First" to "Third" points, the Examiner appears to be contending that in Chen, the second layer 42 is thicker than the first layer 40 because the drying step for the first layer 40 is performed for 15 seconds at 600 to 800 rpm while the drying step for the second layer 42 is performed at zero rpm. The Examiner seems to believe that this is a crucial parameter in determining the thickness of the two layers. In support of his theory, the Examiner relies heavily

upon Lai and contends that Lai teaches that the two spinning speeds for the layers 40 and 42 are “not very high (<6000 rpm)” and “the spinning time to 15 s., which is the approximate time required to slough off the bulk of the polymer solution.”

The Examiner appears to be trying very hard to arrive at the claimed invention. However, in the process of trying to reach this result, the Examiner is disregarding the actual teachings in Chen and reading into the reference features that are not there. As a result, the Examiner’s arguments do not make sense and are improper.

Contrary to the Examiner’s assertion, Lai teaches that “if the spinning speed is not very high (<6000 rpm), the orange peel formation can be prevented by reducing the spinning time to 15 s., which is the approximate time required to slough off the bulk of the polymer solution.” See page 119, first column. Such teaching from Lai has no direct relevance to or bearing on the issue of whether in Chen the first layer 40 is thicker or thinner than the second layer 42. At most, Lai teaches that the film thickness is a function of spinning speed. See pages 1119 and 1120 and Fig. 3.

Moreover, the specific ranges taught by Lai are based on experimental data obtained by using a particular material (i.e. MEK) which is believed to be different than the materials used in Chen. No showing has been made nor has any reason been provided as why or how one skilled in the art would apply this experimental data to the teachings in Chen when the materials used in Chen appear to be different from those used in Lai. Furthermore, the Examiner has made no showing or provided any reason why or how one skilled in the art could apply the teachings of Lai to Chen to contradict the teachings in Chen that layer 40 is thicker than layer 42.

Moreover, this appears to be a clear example of improper hindsight reconstruction by the Examiner, using the claims as a template. The Examiner is twisting and manipulating Chen, and trying to support this manipulation with an improper reference, to arrive at the claimed invention. As discussed in Appellant's Appeal Brief, and as noted in KSR Int'l Co. v. Teleflex, Inc., 107 S. Ct. 1727, 1742, 82 USPQ2d 1385 (U.S. 2007), such a practice is clearly improper.

With respect to point "Four", the Examiner is merely repeating his position that 2000 to 3000 angstroms is the "intended" thickness of the layer 40. The Examiner cites Col. 6, lines 7-10 in Chen in support of this argument. However, there is nothing in this section that states this is the "intended" thickness of layer 40. This argument was discussed in depth in Appellant's Appeal Brief. For the reasons discussed therein, there is no merit to this argument by the Examiner and the argument has been rebutted.

With respect to point "Five", this argument also makes no sense. Chen discloses that layer 40 is applied at a lower and constant speed (than layer 42). As a result, the gaps between the patterned conductor 34 fill more evenly. See col. 6, lines 22-24. Hence, Chen appears to be teaching that layer 40 should be sufficiently thick so that the recesses or gaps fill more evenly. Layer 42 is then applied at a significantly higher speed.

As explained in depth in Appellant's Appeal Brief, it is well established that thickness of a spin coated film *decreases* as the rotational speed *increases*. Therefore, since layer 42 is applied at a significantly higher speed than layer 40, and it is desired that layer 40 be sufficiently thick so that the recesses or gaps fill more evenly, this section in Chen appears to support Appellant's position that



first layer 40 is thicker than second layer 42 (which is contrary to the claimed invention).

In contrast, there appears to be no basis for the Examiner's contention point "five" that layer 40 is thinner than layer 42.

### Conclusion

Appellant has clearly rebutted each of the Examiner's arguments and has shown that the Examiner's position is contrary to the teachings in Chen. Hence, the Examiner still has not shown a key claimed element of the present application, that the second leveling film is thicker than the first leveling film. As a result, a prima facie case of obviousness has not been established. Further, for the reasons explained above and in the Appeal Brief, the rejection is based upon improper hindsight reconstruction.

Accordingly, it is respectfully requested that the rejection be reversed, and the application allowed.

Appellant requests that this Appeal be sustained in all respects, and that all rejections in the Final Rejection be reversed.

Respectfully submitted,

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